



SEQUENCE LISTING

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<130> CD 20805

<140> 10/014,363

<141> 2001-12-11

<150> EP 00127891.0

<151> 2000-12-20

<160> 17

<170> PatentIn Ver. 3.3

<210> 1

<211> 165

<212> PRT

<213> Homo sapiens

<400> 1

Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu
1 5 10 15

Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His
20 25 30

Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe
35 40 45

Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val Trp
50 55 60

Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu
65 70 75 80

Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp
85 90 95

Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu
100 105 110

Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala
115 120 125

Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val
130 135 140

Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala
 145 150 155 160

Cys Arg Thr Gly Asp
 165

<210> 2

<211> 166

<212> PRT

<213> Homo sapiens

<400> 2

Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu
 1 5 10 15

Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His
 20 25 30

Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe
 35 40 45

Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu Val Trp
 50 55 60

Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu
 65 70 75 80

Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp
 85 90 95

Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu
 100 105 110

Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala
 115 120 125

Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val
 130 135 140

Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala
 145 150 155 160

Cys Arg Thr Gly Asp Arg
 165

<210> 3

<211> 201

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic protein
 construct

<400> 3

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Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
 1          5          10          15

Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Ile
      20          25          30

Glu Gly Arg Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu
      35          40          45

Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys
 50          55          60

Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys
 65          70          75          80

Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val
      85          90          95

Glu Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly
      100          105          110

Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu
      115          120          125

His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu
      130          135          140

Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala
      145          150          155          160

Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu
      165          170          175

Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr
      180          185          190

Gly Glu Ala Cys Arg Thr Gly Asp Arg
      195          200

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<210> 4

<211> 196

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic protein.
construct

<400> 4

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Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
 1          5          10          15

Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Ala Pro
      20          25          30

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<210> 5
<211> 201
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Synthetic protein construct

Met	Gly	Val	His	Glu	Cys	Pro	Ala	Trp	Leu	Trp	Leu	Leu	Leu	Ser	Leu
1				5					10					15	
Leu	Ser	Leu	Pro	Leu	Gly	Leu	Pro	Val	Leu	Gly	Ala	Pro	Pro	Gly	Ala
			20					25					30		
Ala	His	Tyr	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	Arg	Val	Leu	Glu
		35					40					45			
Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	Thr	Thr	Gly	Cys
	50					55				60					
Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	Pro	Asp	Thr	Lys
65					70				75						80

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<210> 6
<211> 629
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic nucleotide
construct
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<220>  
<221> CDS  
<222> (14) .. (616)
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<400> 6
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          Met Gly Val His  Glu Cys Pro Ala Trp Leu Trp Leu
                   1                   5                   10

ctc ctg tcc ctg ctg tgc ctc cct ctg ggc ctc cca gtc ctg ggc gcc      97
Leu Leu Ser Leu Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala
                   15                   20                   25

ccc ccc cga atc gag ggc cgc gcc cca cca cgc ctc atc tgt gac agc      145
Pro Pro Arg Ile Glu Gly Arg Ala Pro Pro Arg Leu Ile Cys Asp Ser
                   30                   35                   40

cga gtc ctg gag agg tac ctc ttg gag gcc aag gag gcc gag aat atc      193
Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile
    45                   50                   55                   60

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acg acg ggc tgt gct gaa cac tgc agc ttg aat gag aat atc act gtc	241
Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val	
65 70 75	
cca gac acc aaa gtt aat ttc tat gcc tgg aag agg atg gag gtc ggg	289
Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly	
80 85 90	
cag cag gcc gta gaa gtc tgg cag gcc ctg gcc ctg tcg gaa gct	337
Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu Ser Glu Ala	
95 100 105	
gtc ctg cgg ggc cag gcc ctg ttg gtc aac tct tcc cag ccg tgg gag	385
Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu	
110 115 120	
ccc ctg cag ctg cat gtg gat aaa gcc gtc agt ggc ctt cgc agc ctc	433
Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu	
125 130 135 140	
acc act ctg ctt cgg gct ctg gga gcc cag aag gaa gcc atc tcc cct	481
Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro	
145 150 155	
cca gat gcg gcc tca gct gct cca ctc cga aca atc act gct gac act	529
Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr	
160 165 170	
ttc cgc aaa ctc ttc cga gtc tac tcc aat ttc ctc cgg gga aag ctg	577
Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu	
175 180 185	
aag ctg tac aca ggg gag gcc tgc agg aca ggg gac aga tgaccaggtc	626
Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp Arg	
190 195 200	
gac	629

<210> 7

<211> 614

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic nucleotide construct

<220>

<221> CDS

<222> (14)..(601)

<400> 7

ggaattcacc acc atg ggg gtg cac gaa tgt cct gcc tgg ctg tgg ctt	49
Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu	
1 5 10	

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ctc ctg tcc ctg ctg tcg ctc cct ctg ggc ctc cca gtc ctg ggc gcc 97
Leu Leu Ser Leu Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala
      15                20                25

ccc ccc gcc cca cca cgc ctc atc tgt gac agc cga gtc ctg gag agg 145
Pro Pro Ala Pro Pro Arg Leu Ile Cys Asp Ser Arg Val Leu Glu Arg
      30                35                40

tac ctc ttg gag gcc aag gag gcc gag aat atc acg acg ggc tgt gct 193
Tyr Leu Leu Glu Ala Lys Glu Ala Glu Asn Ile Thr Thr Gly Cys Ala
      45                50                55                60

gaa cac tgc agc ttg aat gag aat atc act gtc cca gac acc aaa gtt 241
Glu His Cys Ser Leu Asn Glu Asn Ile Thr Val Pro Asp Thr Lys Val
      65                70                75

aat ttc tat gcc tgg aag agg atg gag gtc ggg cag cag gcc gta gaa 289
Asn Phe Tyr Ala Trp Lys Arg Met Glu Val Gly Gln Gln Ala Val Glu
      80                85                90

gtc tgg cag ggc ctg gcc ctg ctg tcg gaa gct gtc ctg cgg ggc cag 337
Val Trp Gln Gly Leu Ala Leu Leu Ser Glu Ala Val Leu Arg Gly Gln
      95                100               105

gcc ctg ttg gtc aac tct tcc cag ccg tgg gag ccc ctg cag ctg cat 385
Ala Leu Leu Val Asn Ser Ser Gln Pro Trp Glu Pro Leu Gln Leu His
     110                115                120

gtg gat aaa gcc gtc agt ggc ctt cgc agc ctc acc act ctg ctt cgg 433
Val Asp Lys Ala Val Ser Gly Leu Arg Ser Leu Thr Thr Leu Leu Arg
    125                130                135                140

gct ctg gga gcc cag aag gaa gcc atc tcc cct cca gat gcg gcc tca 481
Ala Leu Gly Ala Gln Lys Glu Ala Ile Ser Pro Pro Asp Ala Ala Ser
      145                150                155

gct gct cca ctc cga aca atc act gct gac act ttc cgc aaa ctc ttc 529
Ala Ala Pro Leu Arg Thr Ile Thr Ala Asp Thr Phe Arg Lys Leu Phe
      160                165                170

cga gtc tac tcc aat ttc ctc cgg gga aag ctg aag ctg tac aca ggg 577
Arg Val Tyr Ser Asn Phe Leu Arg Gly Lys Leu Lys Leu Tyr Thr Gly
      175                180                185

gag gcc tgc agg aca ggg gac aga tgaccaggtc gac 614
Glu Ala Cys Arg Thr Gly Asp Arg
     190                195

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<210> 8

<211> 629

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic nucleotide construct

$\langle 220 \rangle$

<221> CDS

<222> (14) .. (616)

<400> 8

ggaattcacc	acc	atg	ggg	gtg	cac	gaa	tgt	cct	gcc	tgg	ctg	tgg	ctt		49	
	Met	Gly	Val	His	Glu	Cys	Pro	Ala	Trp	Leu	Trp	Leu				
	1				5						10					
ctc	ctg	tcc	ctg	ctg	tcg	ctc	cct	ctg	ggc	ctc	cca	gtc	ctg	ggc	gcc	97
Leu	Leu	Ser	Leu	Leu	Ser	Leu	Pro	Leu	Gly	Leu	Pro	Val	Leu	Gly	Ala	
		15					20					25				
ccc	ccc	ggc	gcc	gcc	cac	tac	gcc	cca	cca	cgc	ctc	atc	tgt	gac	agc	145
Pro	Pro	Gly	Ala	Ala	His	Tyr	Ala	Pro	Pro	Arg	Leu	Ile	Cys	Asp	Ser	
		30				35					40					
cga	gtc	ctg	gag	agg	tac	ctc	ttg	gag	gcc	aag	gag	gcc	gag	aat	atc	193
Arg	Val	Leu	Glu	Arg	Tyr	Leu	Leu	Glu	Ala	Lys	Glu	Ala	Glu	Asn	Ile	
					50					55					60	
acg	acg	ggc	tgt	gct	gaa	cac	tgc	agc	ttg	aat	gag	aat	atc	act	gtc	241
Thr	Thr	Gly	Cys	Ala	Glu	His	Cys	Ser	Leu	Asn	Glu	Asn	Ile	Thr	Val	
				65				70						75		
cca	gac	acc	aaa	gtt	aat	ttc	tat	gcc	tgg	aag	agg	atg	gag	gtc	ggg	289
Pro	Asp	Thr	Lys	Val	Asn	Phe	Tyr	Ala	Trp	Lys	Arg	Met	Glu	Val	Gly	
			80					85					90			
cag	cag	gcc	gta	gaa	gtc	tgg	cag	ggc	ctg	gcc	ctg	ctg	tcg	gaa	gct	337
Gln	Gln	Ala	Val	Glu	Val	Trp	Gln	Gly	Leu	Ala	Leu	Leu	Ser	Glu	Ala	
		95					100					105				
gtc	ctg	cgg	ggc	cag	gcc	ctg	ttg	gtc	aac	tct	tcc	cag	ccg	tgg	gag	385
Val	Leu	Arg	Gly	Gln	Ala	Leu	Leu	Val	Asn	Ser	Ser	Gln	Pro	Trp	Glu	
		110				115					120					
ccc	ctg	cag	ctg	cat	gtg	gat	aaa	gcc	gtc	agt	ggc	ctt	cgc	agc	ctc	433
Pro	Leu	Gln	Leu	His	Val	Asp	Lys	Ala	Val	Ser	Gly	Leu	Arg	Ser	Leu	
					130					135					140	
acc	act	ctg	ctt	cgg	gct	ctg	gga	gcc	cag	aag	gaa	gcc	atc	tcc	cct	481
Thr	Thr	Leu	Leu	Arg	Ala	Leu	Gly	Ala	Gln	Lys	Glu	Ala	Ile	Ser	Pro	
				145					150					155		
cca	gat	gcg	gcc	tca	gct	gct	cca	ctc	cga	aca	atc	act	gct	gac	act	529
Pro	Asp	Ala	Ala	Ser	Ala	Ala	Pro	Leu	Arg	Thr	Ile	Thr	Ala	Asp	Thr	
			160					165					170			
ttc	cgc	aaa	ctc	ttc	cga	gtc	tac	tcc	aat	ttc	ctc	cgg	gga	aag	ctg	577
Phe	Arg	Lys	Leu	Phe	Arg	Val	Tyr	Ser	Asn	Phe	Leu	Arg	Gly	Lys	Leu	
		175					180					185				
aag	ctg	tac	aca	ggg	gag	gcc	tgc	agg	aca	ggg	gac	aga	tgaccaggtc			626
Lys	Leu	Tyr	Thr	Gly	Glu	Ala	Cys	Arg	Thr	Gly	Asp	Arg				
		190				195										

<210> 9
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 9
 Ile Glu Gly Arg
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<210> 10
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 10
 Asp Asp Asp Asp Lys
 1 5

<210> 11
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic peptide

<400> 11
 Asp Asp Asp Asp Lys Ala Pro
 1 5

<210> 12
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic primer

<400> 12
 gagcctgaat tcaccacc

<210> 13
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 13
 aggtgggtcg acctgggtcat ctgtcccctg

30

<210> 14
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 14
 cgcccccccc cgaatcgagg gccg

24

<210> 15
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 15
 cgcgccctc gattcggggg gggg

24

<210> 16
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 16
 cgcccccccc ggcgccgccc acta

24

<210> 17
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 17

cgtagtgggc ggcgccgggg gggg

24